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## OAK ISLAND AND ITS FLORA.

WM. P. RICH.

RISING out of the salt marsh, but a few hundred feet back from the beach, in the town of Revere, Massachusetts, is a little tract of woodland known as Oak Island. The Eastern Division of the Boston and Maine Railway passes through it, dividing it into two sections, the eastern and the western parts. The Island was, however, originally divided into two parts, between which was a low marshy space, but as the changes in topography that have been wrought in recent years, by the building of a road, race-course, hotel and other accretions to a summer resort, have somewhat obliterated the former lines of division, and as by far the richest flora is found in the grove beyond the railway, it is more convenient botanically to make the railway a dividing line between the two sections.

The eastern part as thus understood contains an area of about eleven acres and the ground is mostly higher and drier than in the western part, and by reason of its frequent use as an excursion resort, the ground covering, excepting around the edges has been pretty much destroyed. The western part comprising about ten acres is a damp open grove and in its rich, black soil grow such a number of interesting plants that for a period of seventy-five years it has been a well-known collecting ground for botanists.

Many similar marsh islands are found along the coasts of Massachusetts and New Hampshire, but in none of them exist such a variety and abundance of notable plants as at Oak Island. Very nearly four hundred species have been recorded growing naturally here. Should there be another tract of land in New England of twenty acres in extent which supports a flora equaling in number of species

that of Oak Island, RHODORA would be pleased to chronicle the fact. Surrounded on three sides by numerous cities and towns, from whose aggressions the intervening marshes have hitherto protected it, and a popular seaside resort close at hand, here the plants which once doubtless spread over a much larger area have been driven and are making a last stand against the encroachments of an ever increasing population and the destructive results to the native flora which necessarily attend it.

From May until October a constant succession of wild flowers fills the damp wood growing in such profusion at times as to produce conspicuous masses of color. One month the ground covering will be tinted with the pale yellow of the *Steironema ciliatum* and the *Gerardia quercifolia*. The next month the scene changes and the flaming yellow of two species of *Helianthus*, *strumosus* and *divaricatus*, will fill the grove with their splendid display, and again as one visits the place a month later, bluish-white masses of *Aster cordifolius* form the prevailing color, and tall plants of silvery *Eupatorium purpureum* and giant stalks of *Lophanthus* rise above the tangled vegetation claiming recognition in this Nature's horticultural show. In smaller volume but hardly less interesting are the very many less self-assertive plants. Humble species, overshadowed by their more conspicuous companions, they fill every inch of intervening space and must be searched for by the careful observer.

In May the yellow violet (*Viola pubescens*), the adder's tongue (*Erythronium Americanum*) and the anemone (*Anemone quinquefolia*) are usually plentiful, although the school-children of the neighboring towns make serious incursions upon them.

In this month also the shadbush whitens the borders of the grove while the *Geranium maculatum*, *Uvularia perfoliata*, *U. sessilifolia*, *Ranunculus abortivus*, *R. Allegheniensis*, *R. recurvatus* and the *Triosteum aurantiacum* are all abundant, extending their flowering time well into June.

The Lousewort (*Pedicularis Canadensis*) as it grows here in compact masses in drier parts of the wood is when in its prime an exceedingly attractive plant.

The white lace-like inflorescences of *Cryptotaenia*, *Osmorrhiza* and *Actaea* are always pleasing and the *Actaea* is even more showy in fruit with its racemes of cherry-red berries.

Two species of Snake-root grow abundantly, the *Sanicula Mary-*

*landica* and *S. gregaria*, flowering at about the same time, the former with greenish and the latter with yellowish flowers. Now that Mr. Bicknell has pointed out the differences between these two plants it is a constant wonder that they went unrecognized for so many years.

Around the borders abundance of the purple-flowered *Lythrum Hyssopifolia* grows and the slender-leaved blue iris (*Iris prismatica*); and amidst the salt-marsh grasses is found the *Potentilla Anserina*, its yellow flowers hardly more handsome than the silvery under surface of its leaves. In June *Cornus paniculata* and *Viburnum dentatum*, the most common flowering shrubs to be found, are conspicuous with their dense masses of white flowers, and a month or more later are hardly less so in fruit, the *Cornus* with clusters of pearly white berries on pink pedicels and the *Viburnum* in dark blue.

Many salt-marsh species are of course to be found, among which may be noted *Triglochin maritima*, *Plantago decipiens*, *Iva frutescens* and *Teucrium Canadense*.

In July the *Lilium Canadense* is sometimes very abundant, and *Lilium Philadelphicum* is also found. *Circaea lutetiana* and *Desmodium acuminatum* occur in great quantities and the noticeable grass *Asprella Hystrix* lifts its straw-colored racemes high above the surrounding vegetation. During August and September numerous plants of *Scrophularia Marylandica* most conspicuous in fruit attract attention, and tall plants of *Lophanthus scrophulariaefolius* tower above the herbage to a height of six and even eight feet, while its near relative *Monarda mollis*, a most attractive species, is occasionally met with. There is also a numerous colony of *Collinsonia Canadensis*.

With the advent of the Asters, Solidagos and Prenanthes, new elements of botanical interest are introduced.

The seaside golden-rod (*Solidago sempervirens*) forms lines of gold around the borders which are not wholly dulled until December; and *Solidago asperula*, Desf., a species with an interesting history, and *S. arguta* are to be found here.

The handsome *Aster Novae-Angliae* forms dense clumps of purple on the marshy margins, and *Aster salicifolius*, an uncommon species in Eastern Massachusetts, grows in a restricted colony in damp shade and is one of the latest plants to flower, October first being its date of appearance in blossom.

Two species of *Prenanthes*, *trifoliolata* and *alba*, are also conspicuous at this season and easily separated by the difference in the color of the pappus.

It would, however, exceed the limits of this article to call attention to all the wild flowers that bloom in this seaside garden, many of which are not to be found again within a radius of many miles.

In the year 1882 the late Herbert A. Young, then a resident of Revere, made a careful and very complete catalogue of the plants of Oak Island which was published in the Bulletin of the Essex Institute, 1883, and to that publication the writer is indebted for much of the information herewith presented. Mr. Young's list enumerates 336 species of flowering and fern-plants and 28 species of mosses. In the twenty years which have elapsed since that publication some changes must necessarily have taken place in the flora of the Island and it is gratifying to note at this date that but few plants have disappeared from the record, and these missing species are more than offset by the numerous accessions to the flora that have come in during recent years.

Dr. Jacob Bigelow in the Florula Bostoniensis, 1824 and 1840, noted thirteen species from Oak Island or as it was then often called, "Chelsea Beach Island."

In 1882 Mr. Young stated that all of these with the exception of *Phryma Leptostachya*, L. had been collected that season, although he omitted from his own list *Desmodium cuspidatum*, Torr., which had been noted from the Island by Bigelow (as *Hedysarum cuspidatum*). In 1901 all of these thirteen species were still in existence with the same exceptions.

The following is a list of additions to Young's Catalogue that have been collected by the writer and others since the date of that publication (1883). Many of them, as will be observed, are segregations made by botanists since that date and some are plants of a migratory character that appear for a few years and then are gone.

*Panicum macrocarpon*, Le Conte.

“ *boreale*, Nash.

“ *unciphyllum*, Trin.

“ *lanuginosum*, Ell.

*Dactylis glomerata*, L. Now very abundant throughout the island.

*Agrostis intermedia*, Scribner. (*Agrostis perennans*, Tuck., of Young's List).

*Bromus secalinus*, L. Near stable. July 29, 1900.

*Carex mirabilis*, Dewey, var. *perlonga*, Fernald.

*Betula papyrifera*, Marshall. A single tree with yellow-brown bark

in extreme southeastern part. Mr. M. L. Fernald says of this tree that it is a form of the species which is common on Vancouver Island and adjacent coasts.

*Sisyrinchium angustifolium*, Mill. (*S. Bermudiana* of the List).

*Polygonum aviculare*, L., var. *littorale*, Koch. Occasional around southern border and in low grass-land.

*Polygonum prolificum*, Robinson (*P. maritimum* of the list). Very abundant around the borders.

*Solanum Dulcamara*, L. Several plants in eastern part.

*Sanicula gregaria*, Bicknell. Very abundant in western part.

*Myosotis arvensis* Hoffm. Numerous plants in extreme eastern part.

June 10, 1899.

*Lycopus Virginicus*, L. In eastern part. Sept. 11, 1898.

*Monarda mollis* L. (*Monarda fistulosa* of the list).

*Leonurus Cardiaca* L. A colony of this species appeared, 1891, in the western part.

*Rubus nigrobaccus*, Bailey.

“ *argutus*, Link.

“ sp.? Not yet satisfactorily identified. Abundant on the western border.

*Pyrus arbutifolia*, L. f., var. *melanocarpa*, Hook. (*P. arbutifolia*, var. *erythrocarpa* of Young's List). A rather puzzling plant with pubescent leaves during early part of the season, but the black globular fruit that of *melanocarpa*.

*Agrimonia gryposepala*, Wallr. Frequent in the western part.

“ *striata*, Michx. Occasional in the western part.

*Galium Mollugo*, L. First collected by H. A. Purdie 1896, in extreme northeastern part. The specimens are immature and may prove, as suggested by Dr. J. M. Greenman, to be *Galium erectum*, Hudson, another European species.

*Nyssa sylvatica*, Marsh. A few young plants three or four feet high were seen Aug. 30, 1896. As this species grows abundantly across the marsh on the Saugus side, directly opposite Oak Island, it is probable that berries brought by birds caused its appearance here. Not seen recently.

*Potentilla Canadensis*, L. Eastern part. May 23, 1900.

*Amphicarpa Pitcheri*, T. & G. See RHODORA, Vol. 1, p. 27.

*Helianthemum majus*, B. S. P. Open ground, eastern part. June 28, 1896.

- Barbarea vulgaris*, R. Br. Western part. Observed May 21, 1895, and May 22, 1899.
- Cardamine Pennsylvanica*, Muhl. (*C. hirsuta*, var. *sylvatica* of the list).
- Brassica campestris*, L. Western part. July 14, 1901.
- “ *juncea*, Coss. Western part. July 14, 1901.
- “ *Sinapistrum*, Boiss. Western part. July 14, 1901.
- Ranunculus Allegheniensis*, Britton. Abundant in the western part.
- “ *repens*. L. Damp ground in the eastern part.
- Lysimachia producta*, Fernald. Eastern part. See RHODORA, Vol. 1, p. 133.
- Cuscuta Gronovii*, Willd. Abundant on *Aster Novi-Belgii* in extreme southeastern part. Aug. 13, 1899.
- Triosteum aurantiacum*, Bicknell, (*T. perfoliatum* of the List).
- Vitis aestivalis*, Michx. A few young plants in middle of the western part. July 1, 1900.
- Ilex verticillata*, Gray, var. *tenuifolia*, Watson. See RHODORA, Vol. 2, p. 105.
- Atriplex patulum*, L. Abundant on southern border in western part.
- Antennaria plantaginea*, R. Br., var. *petiolata*, Fernald. Eastern part. June 10, 1899.
- “ *neodioica*, Greene. Eastern part. June 10, 1899.
- “ *Canadensis*, Greene. Eastern part. May 23, 1900.
- Taraxacum erythrospermum*, Andrz. Southeastern part. May 23, 1900.
- Cnicus lanceolatus*, Hoffm. Frequently seen in recent years in the western part.
- Lactuca Scariola*, L., var. *integrata*, Gren. & Godr. Abundant since 1900 around the southern edges.
- Tanacetum vulgare*, L. Eastern part. July 29, 1900.
- Sonchus asper*, Vill. Eastern part, near stable. July 29, 1900.
- Prenanthes trifoliolata*, Fernald. Abundant in western part.
- Solidago Canadensis*, L., var. *procera*, Gray. Western part around borders. Sept. 16, 1899.
- Solidago asperula*, Desf. This is the plant referred to in Young's List as “*Solidago* sp.? Perhaps a cross between *S. semper-virens* and *S. altissima*.” For a full discussion of this interesting golden-rod see RHODORA, Vol. 2, p. 57.
- Lapsana communis*, L. Appeared about 1894 in eastern part near

the entrance and flourished for several years. Now nearly obliterated.

Of the foregoing 54 species and varieties 40 are additions to Young's List. The remaining 14 representing changes and segregations made since that date.

There have also been some subtractions from the flora of the island, the following plants and perhaps a few others not having been seen by the writer in recent years.

*Orchis spectabilis*, L. Probably exterminated by visitors digging up the plants for transplanting into gardens.

*Cnicus horridulus*, Pursh. (*Cirsium horridulum* L.). As this species grows abundantly but a short distance away on the Saugus marshes its reappearance on the Oak Island borders may be confidently predicted.

*Gentiana Andrewsii*, Griseb. Not found since.

*Arabis perfoliata*, Lam. Not found since.

*Phragmites communis*, Trin. Young notes "three specimens in the northwestern part." Here is an instance of extermination from natural causes. It is a well-established fact that the coast of New England has undergone a gradual subsidence at the rate of about eighteen inches in a century. On the Nahant shore opposite Oak Island stumps of forest trees can still be seen just below the low-water line and on the Revere Beach shore the writer is informed by Mr. John H. Sears, the eminent geologist of Essex County, that masses of the roots of *Phragmites*, cat-tail flag, cow lily, as well as the remains of numerous forest trees, such as beech, white pine, oak, spruce, hemlock and hop-hornbeam have been found imbedded under the waters of the bay. No other locality for the *Phragmites* is known within a dozen miles and it is evident that the specimens seen at Oak Island by Mr. Young in 1882 were the last remnants of this giant grass that in former times waved its great plumes in solid phalanx in this vicinity.

*Epiphegus Virginiana*, Bart. The disappearance of this plant may be attributed to the same cause.

Some species noted in the List as scarce or seen only in a few specimens have greatly increased since that time. Among such are *Leersia Virginica*, Willd., *Verbena hastata*, L., *Pedicularis Canadensis*,

L., *Scrophularia Marylandica*, L., *Lophanthus scrophulariaefolius*, Benth., *Iva frutescens* L., and *Aster salicifolius*.

Their abundance or scarcity, however, depends greatly upon the season as does the vegetation of the whole Island, a dry summer shrinking it to a noticeable degree, while in a moist season it thrives with the greatest luxuriance.

It will thus be seen that the flora of the Island has not diminished in number of species in the interval of twenty years and that the fears expressed by Mr. Young regarding its future have happily to this date been unfulfilled; but the same predictions he made may be safely renewed to-day; the same danger and additional ones hang over it, threatening the "fate of one of the most interesting botanical stations in this part of the country."

The island grove is a great resort for haymakers, hoboes and Hibernians. Haymakers on the marshes stack up great mounds of hay along the borders and take their noon-day rest in its shade. Tramps on their travels between Lynn and Boston make it a rendezvous and several times has the writer in the gloom of a summer evening come upon them as they were preparing a resting place for the night; and Hibernians—well, if one would see the Island in its full glory it should be visited on the occasion of one of their annual excursions.

Fortunately the picnic grounds being in the eastern part, the damage done on these festive occasions has not as yet proved a very serious injury.

#### SOME CASES OF POISONING BY CYPRIPEDIUM SPECTABILE IN VERMONT.

ALICE E. BACON.

SOME months ago Mr. W. W. Eggleston of Rutland narrated an experience indicating that our beautiful pink and white lady's slipper is poisonous, at least to some people. In the summer of 1889 he collected an armful of this plant from a swamp near Rutland and had the flowers near his face a great deal to inhale their fragrance. About a week afterward his forehead and the inner sides of his